

Synchronous Generator Market by Prime Mover (Steam turbine, Gas turbines), Speed (1,500 RPM, 3,000 RPM), Power Rating (2-5 MVA, 5-10 MVA, 10-20 MVA, 20-30 MVA, & 30-50 MVA), End User (Renewable Power Generation) & Region - Global Forecast to 2028

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Abstracts

The global synchronous generator market is estimated to grow from USD 5.9 billion by 2028 from an estimated of USD 4.7 billion in 2023; it is expected to record a CAGR of 4.6% during the forecast period. Increasing electricity demand and need for reliable power generation is major factor driving the market

“Conventional Power Generation: The largest- growing segment of the synchronous generator market”

Based on by End User of synchronous generator , the conventional power generation segment is estimated to be the largest-growing market from 2023 to 2028. Synchronous generators are widely employed in baseload power plants designed to provide a constant, continuous supply of electricity to the grid. These power plants, such as coal-fired, natural gas-fired, or nuclear power plants, rely on synchronous generators to convert mechanical energy into electrical energy. Synchronous generators can synchronize with the electrical grid, matching the grid’s frequency and phase.

“1,500 RPM: The largest segment by standard in synchronous generator market”

The 1,500 RPM segment, by speed, is projected to hold the largest market size during the forecast period. By operating at 1,500 RPM, they can maintain a stable frequency output of 50 Hz which is common standard for grid frequency used in Europe and Asia Pacific. Synchronous generators can easily synchronize with the utility grid due to their

ability to match the grid's frequency and phase. Operating at 1,500 RPM allows seamless integration with the grid system, making connecting and supplying power to the electrical network easier

“30-50 MVA: The fastest growing segment by type in synchronous generator market”

The 30-50 MVA, by power rating is projected to hold the fastest growing market size during the forecast period. The growth of the 30–50 MVA segment is driven by the increasing electricity demand in rapidly developing economies. As these economies undergo industrial growth, urbanization, and infrastructure development, reliable and high-capacity power generation solutions are crucial. With their substantial power output and ability to meet large-scale operational requirements, 30–50 MVA synchronous generators are well-positioned to address growing energy needs.

“Europe: The third largest and third fastest-growing region in synchronous generator market”

Europe is estimated to hold the third largest and third fastest market share in the synchronous generator market. As the EU prepares to reduce its reliance on Russian gas, some countries have chosen to expand their current gas drilling sites or tap into untapped reserves, in addition to diversifying their energy sources and promoting renewable energy. These factors make synchronous generators particularly suited for oil and gas facilities because they can provide reliable and stable power over various load conditions. They also have high efficiency and can maintain their voltage and frequency output within tight tolerances, which is critical for the safe and reliable operation of the equipment in the facility

Breakdown of Primaries:

In-depth interviews have been conducted with various key industry participants, subject-matter experts, C-level executives of key market players, and industry consultants, among other experts, to obtain and verify critical qualitative and quantitative information, as well as to assess future market prospects. The distribution of primary interviews is as follows:

By Company Type: Tier 1- 35%, Tier 2- 45%, and Tier 3- 20%

By Designation: C-Level- 35%, Director Levels- 25%, and Others- 40%

By Region: North America- 40%, Asia Pacific- 30%, Europe- 20%, the Middle East & Africa- 5%, and South America- 5%

Note: Others include product engineers, product specialists, and engineering leads.

Note: The tiers of the companies are defined on the basis of their total revenues as of 2021. Tier 1: > USD 1 billion, Tier 2: From USD 500 million to USD 1 billion, and Tier 3: The synchronous generator market is dominated by a few major players that have a wide regional presence. The leading players in the synchronous generator market are ABB (Switzerland), WEG (Brazil), Siemens Energy (Germany), Meidensha Corporation (Japan), and Andritz (Austria).

Research Coverage:

The report defines, describes, and forecasts the global synchronous generator market, by speed, prime mover, power rating, end user, and region. It also offers a detailed qualitative and quantitative analysis of the market. The report provides a comprehensive review of the major market drivers, restraints, opportunities, and challenges. It also covers various important aspects of the market. These include an analysis of the competitive landscape, market dynamics, market estimates, in terms of value, and future trends in the synchronous generator market.

Key Benefits of Buying the Report

There is a significant need for new power generation capacity in many regions to meet the growing electricity demand. This need is particularly acute in developing countries, with an increasing demand for electricity to support economic growth and improve the quality of life. The synchronous generator is an essential solution to this challenge, providing reliable power generation capacity as it can be deployed quickly and efficiently.

Product Development/ Innovation: The future of the synchronous generator market looks bright. Companies like ABB has launched latest in-line shaft generator which will enable ship operators to benefit from the efficiency, performance, and reliability advantages of permanent magnet technology

Market Development: The main reasons behind the increasing number of blackouts are aging infrastructure, lack of investments, and the absence of

regulatory policy that enables grid modernization. According to the Canadian Electricity Association, the current Canadian electricity sector requires an investment of USD 400 billion for the next 20 years. Electricity demand has grown 10% over the past decade, despite the increasing use of more energy-efficient products and the rising construction of energy-efficient buildings. End users rely more on digital devices, air-conditioners (during summer), and other electrical appliances.

Market Diversification: Menzel Elektromotoren supplies complete rotary converter sets for test fields, with motors and generators from its own production, as well as frequency converters, transformers, all accessories, controls, and software being programmed in-house. The 7.5 MVA synchronous generator and the 2.3 MW squirrel-cage motor were Menzel products featuring high efficiency and great robustness.

Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players like ABB (Switzerland), WEG (Brazil), Siemens Energy (Germany), Meidensha Corporation (Japan), and Andritz (Austria) among others in the synchronous generator market.

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